TITLE

HIGH LEVEL PRODUCTION OF P-HYDROXYBENZOIC ACID IN GREEN PLANTS

ABSTRACT OF THE DISCLOSURE

The invention relates to high-level production of pHBA in green plants using a unique expression cassette. The latter comprises a chorismate pyruvate lyase (CPL) coding sequence operably linked to a suitable promoter capable of driving protein expression in higher plants. Additionally, the CPL cassette comprises a sequence encoding a chloroplast transit peptide, its natural cleavage site, and a small portion of the transit peptide donor protein fused to the N-terminus of CPL. The chloroplast targeting sequence targets the foreign protein to the chloroplast compartment and aids in its uptake into the organelle. The cleavage site is unique to the transit peptide, and cleavage of the chimeric protein encoded by the cassette at this site releases a novel polypeptide that has full enzyme activity, comprising the mature CPL enzyme and a small portion of the transit peptide donor.

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